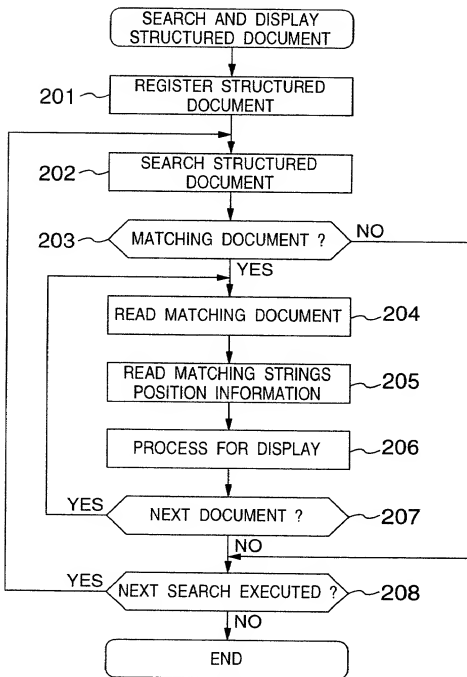


FIG. 2

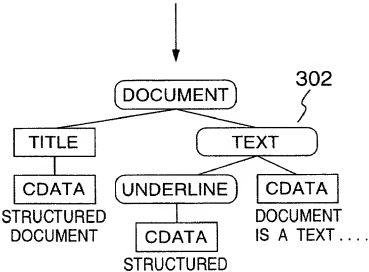


<FLOWCHART FOR DOCUMENT DISPLAY PROCESS
OF FIRST EMBODIMENT>

FIG. 3

<REGISTRATION OF STRUCTURED DOCUMENT> 301

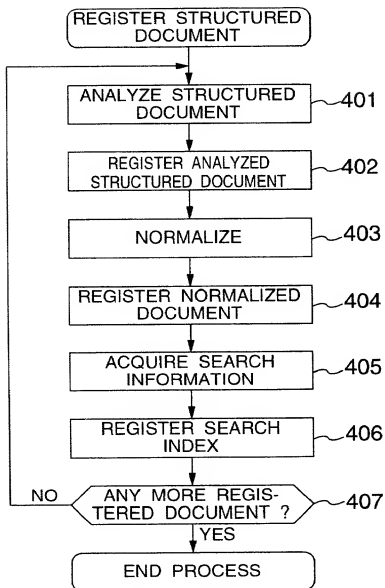
```
<!DOCTYPE DOCUMENT SYSTEM "DOCUMENT.dtd">
<DOCUMENT>
<TITLE> STRUCTURED DOCUMENT </TITLE>
<TEXT>
<UNDERLINE> STRUCTURED </UNDERLINE> DOCUMENT IS A TEXT ....
</TEXT>
</DOCUMENT>
```



DATA CONVERSION INTO
TABLE FORMAT

ELEMENT ID	ELEMENT TYPE	TAG	CONTENT
0	DOCUMENT	DOCUMENT	SUBELEMENT: 1, 3
1	ELEMENT	TITLE	SUBELEMENT: 2
2	CDATA	—	CHARACTER STRING: "STRUCTURED DOCUMENT"
3	ELEMENT	TEXT	SUBELEMENT: 4, 6
4	ELEMENT	UNDERLINE	SUBELEMENT: 5
5	CDATA	—	CHARACTER STRING: "STRUCTURED"
6	CDATA	—	CHARACTER STRING: "DOCUMENT IS"

FIG. 4



<FLOWCHART OF REGISTRATION OF
STRUCTURED DOCUMENT>

FIG. 5

<TEXT FOR SEARCH>

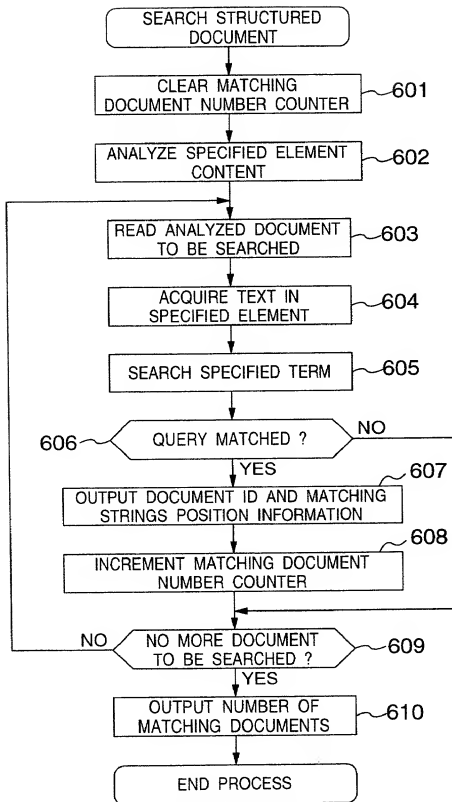
ELEMENT ID	START CHARACTER POSITION	CHARACTER STRING LENGTH
2	0	10
5	10	6
6	16	44
:	:	:

<CHARACTER
STRING>

STRUCTURED DOCUMENT IS

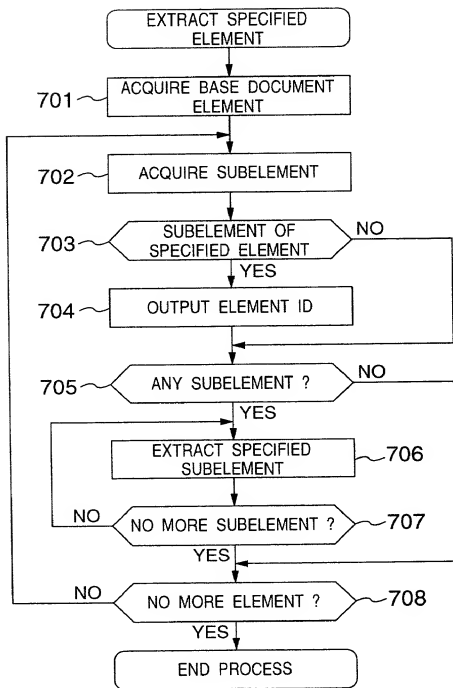
0960475-092001 100260-5/44560

FIG. 6



<FLOWCHART FOR SEARCH OF STRUCTURED DOCUMENT>

FIG. 7



<FLOWCHART FOR EXTRACTION OF SPECIFIED ELEMENT>

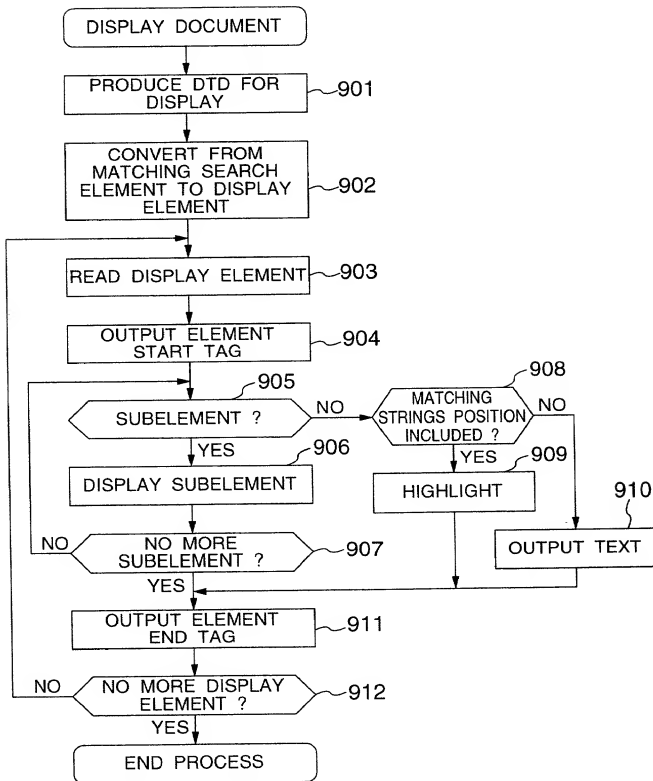
FIG. 8

<RESULT OF ANALYSIS OF SPECIFIED ELEMENT>

NUMBER OF ELEMENTS	N	801
-----------------------	---	-----

N	ELEMENT ID	802
	2	
	3	
	4	
	7	
	8	
	⋮	

FIG. 9



<FLOWCHART FOR DISPLAY OF STRUCTURED DOCUMENT>

FIG. 10

<EXAMPLE OF STRUCTURED DOCUMENT>

1001

[DTD] (DOCUMENT. dtd)

```
<!ELEMENT DOCUMENT... (TITLE, TEXT)>
<!ELEMENT TITLE    ... CDATA>
<!ELEMENT TEXT     ... (#PCDATA | UNDERLINE)*>
<!ELEMENT UNDERLINE... CDATA>
```

1002

[DOCUMENT INSTANCE]

```
<!DOCTYPE DOCUMENT SYSTEM "DOCUMENT. dtd">
<DOCUMENT>
<TITLE> STRUCTURED DOCUMENT </TITLE>
<TEXT>
<UNDERLINE> STRUCTURED </UNDERLINE> DOCUMENT IS
A TEXT ....
</TEXT>
</DOCUMENT>
```

SEARCH AND DISPLAY
"STRUCTURED DOCUMENT"

<EXAMPLE OF HIGHLIGHTED STRUCTURED DOCUMENT>

1003

[DTD] (DISPLAY. dtd)

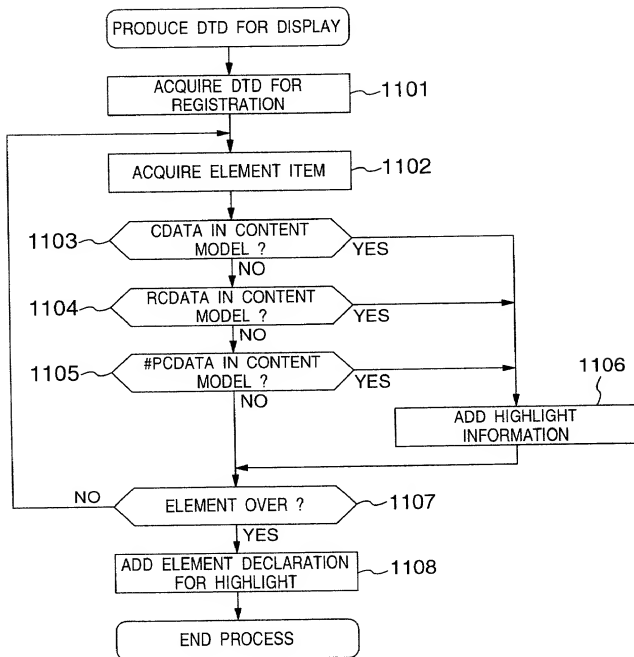
```
<!ELEMENT DOCUMENT... (TITLE, TEXT)>
<!ELEMENT TITLE    ... (#PCDATA | HIGHLIGHT)*>
<!ELEMENT TEXT     ... (#PCDATA | UNDERLINE | HIGHLIGHT)*>
<!ELEMENT UNDERLINE... (#PCDATA | HIGHLIGHT)*>
<!ELEMENT HIGHLIGHT... (#PCDATA)>
```

1004

[DOCUMENT INSTANCE]

```
<!DOCTYPE DOCUMENT SYSTEM "DISPLAY. dtd">
<DOCUMENT>
<TITLE> <HIGHLIGHT> STRUCTURED DOCUMENT </HIGHLIGHT> </TITLE>
<TEXT>
<UNDERLINE> <HIGHLIGHT> STRUCTURED </HIGHLIGHT> </UNDERLINE>
<HIGHLIGHT> DOCUMENT </HIGHLIGHT> IS A TEXT ....
</TEXT>
</DOCUMENT>
```

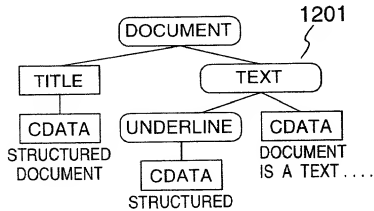
FIG. 11



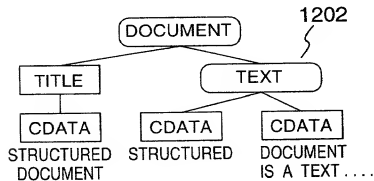
<FLOWCHART FOR PRODUCING DTD FOR DISPLAY>

FIG. 12

<NORMALIZE FOR SEARCH OF STRUCTURED DOCUMENT>



DELETE UNREQUIRED
ELEMENT (UNDERLINED)



COUPLE TEXT

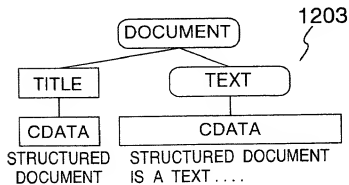
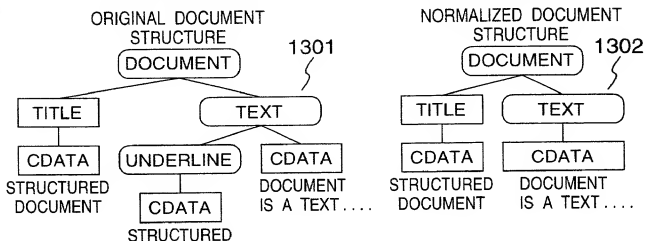


FIG. 13

<CONVERT NORMALIZED DOCUMENT TO TABLE FORMAT DATA>



ELEMENT INFORMATION TABLE

↓ CONVERT TO TABLE FORMAT DATA

ELEMENT ID	ELEMENT TYPE	TAG	CONTENT
0	DOCUMENT	DOCUMENT	SUBELEMENT: 1, 3
1	ELEMENT	TITLE	SUBELEMENT: 2
2	CDATA	—	CHARACTER STRING: "STRUCTURED DOCUMENT"
3	ELEMENT	TEXT	SUBELEMENT: 4, 6
4	ELEMENT	UNDERLINE	SUBELEMENT: 5
5	CDATA	—	CHARACTER STRING: "STRUCTURED"
6	CDATA	—	CHARACTER STRING: "DOCUMENT IS..."
7	DOCUMENT	DOCUMENT	SUBELEMENT: 1, 8
8	ELEMENT	TEXT	SUBELEMENT: 9
9	CDATA	—	CHARACTER STRING: "STRUCTURED DOCUMENT IS..."

ADD
AFTER
NORMAL-
IZATION

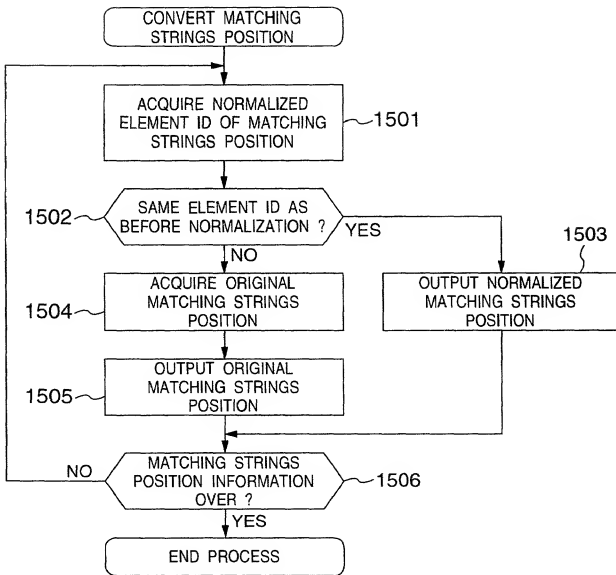
CORRESPONDENCE TABLE FOR NORMALIZATION

NORMAL- IZED ELEMENT ID	ELEMENT TYPE	ORIGINAL ELEMENT ID	CHARACTER STRINGS POSITION	
			AFTER NORMALIZATION	BEFORE NORMALIZATION
7	DOCUMENT	0	—	
8	ELEMENT	3	—	
9	CDATA	5	0-5	0-5

03065950 - 03065951

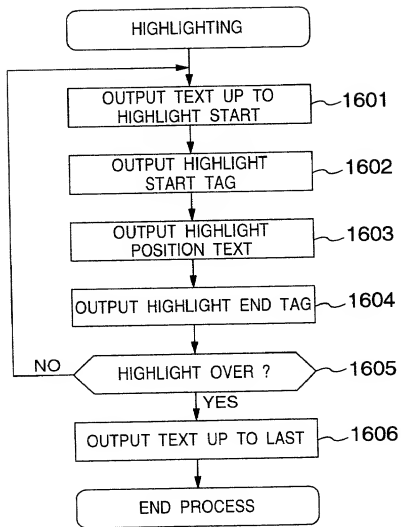
14011402

FIG. 15



<FLOWCHART FOR MATCHING STRINGS POSITION ACQUISITION>

FIG. 16



<FLOWCHART FOR HIGHLIGHTING>

FIG. 17

<MATCHING STRINGS POSITION INFORMATION>

ELEMENT ID	MATCHING CONDITION	MATCHING STRINGS POSITION	
		START POSITION	LENGTH
2	TERM	0	10
9	FREQUENCY	0	10
9	ELEMENT	0	50
9	TERM	30	4
9	TERM	36	4
9	PROXIMITY	30	10

FIG. 18

<HIGHLIGHTING METHOD DEFINITION>

MATCHING CONDITION	HIGHLIGHTING METHOD	HIERARCHY INFORMATION
TERM	RED	1
FREQUENCY	FONT LARGE	1
PROXIMITY	UNDERLINE	2
ELEMENT	ITALIC	3

FIG. 19

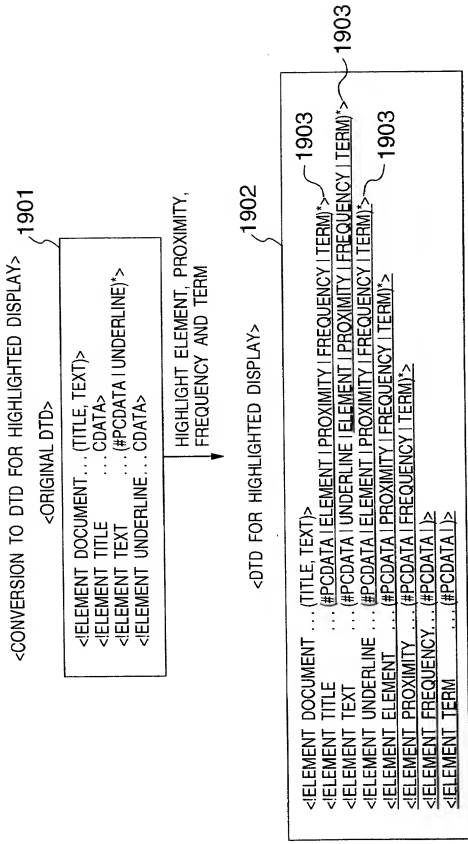
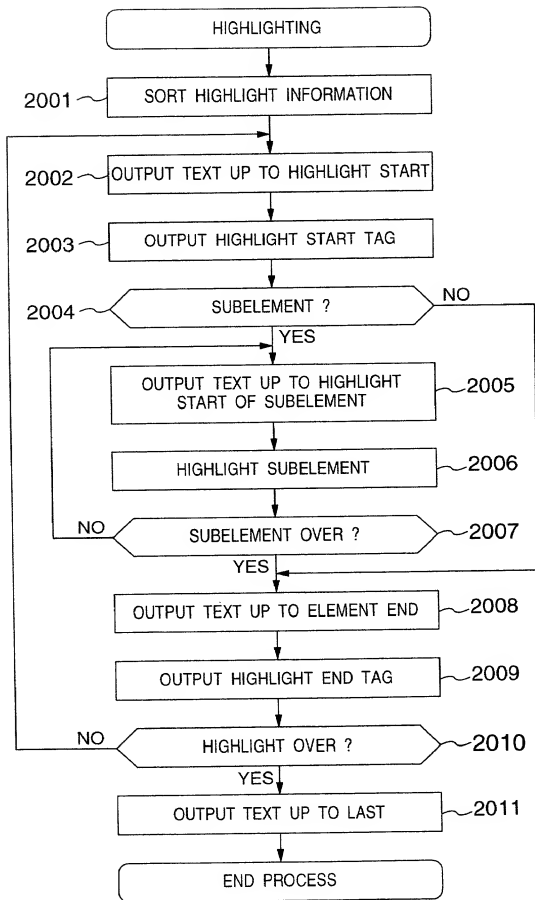


FIG. 20



<FLOWCHART FOR MATCHING STRINGS POSITION ACQUISITION>

FIG. 21

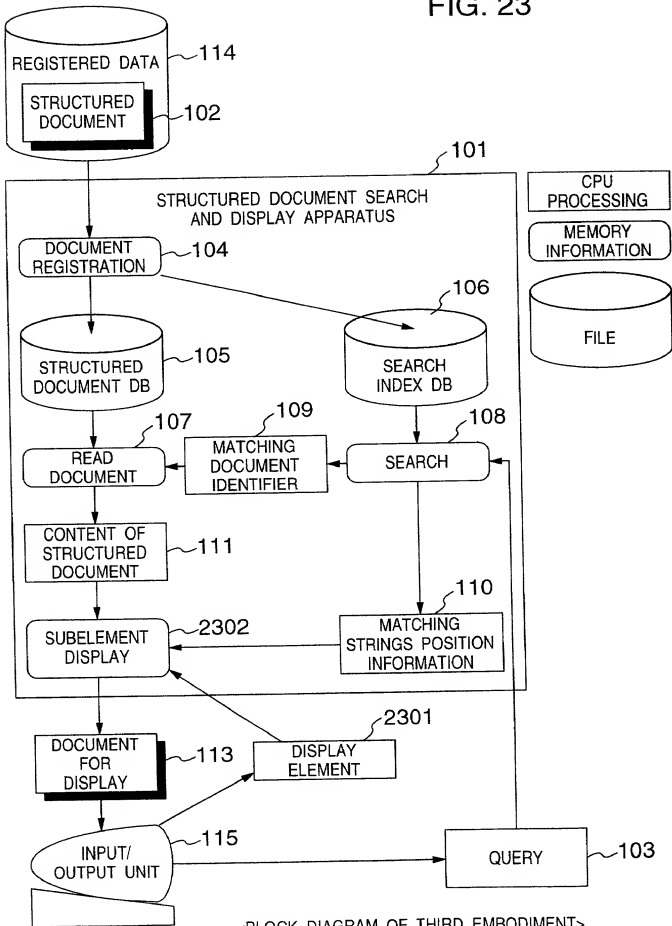
```
<DOCUMENT>
<TITLE><TERM>STRUCTURED DOCUMENT</TERM></TITLE>
<TEXT>
<UNDERLINE><ELEMENT><FREQUENCY>STRUCTURED</FREQUENCY>
</ELEMENT></UNDERLINE><ELEMENT><FREQUENCY>DOCUMENT
</FREQUENCY>IS A DOCUMENT WITH <PROXIMITY>
<TERM>TAG</TERM>INSERTED</TERM></PROXIMITY> IN TEXT ...
</ELEMENT>
</TEXT>
</DOCUMENT>
```

FIG. 22

<EXAMPLE OF HIGHLIGHTED DISPLAY>

STRUCTURED DOCUMENT IS A DOCUMENT WITH TAG INSERTED IN TEXT ...

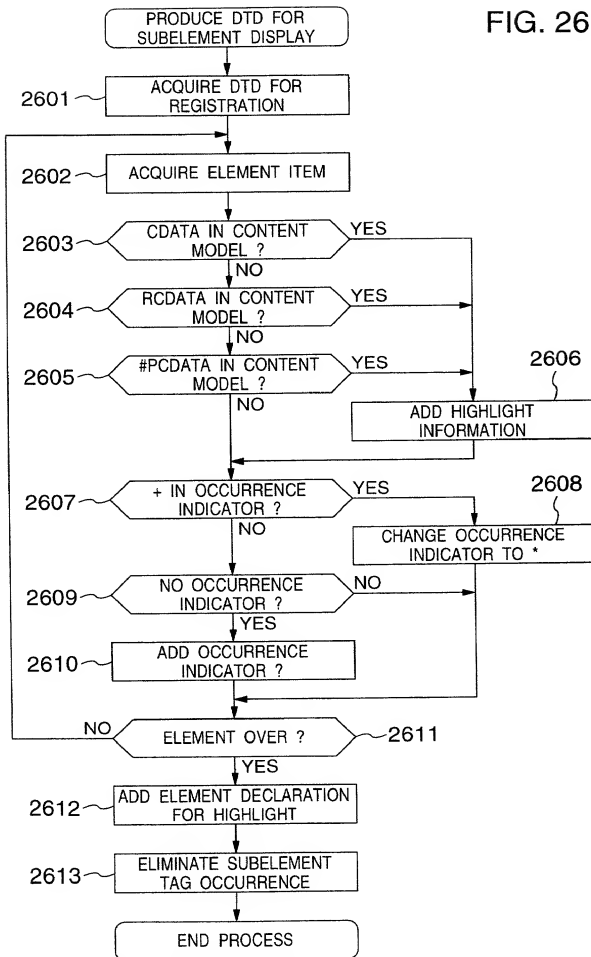
FIG. 23



<BLOCK DIAGRAM OF THIRD EMBODIMENT>

FIG. 25

FIG. 26



<FLOWCHART FOR PRODUCING DTD FOR SUBELEMENT DISPLAY>

FIG. 27

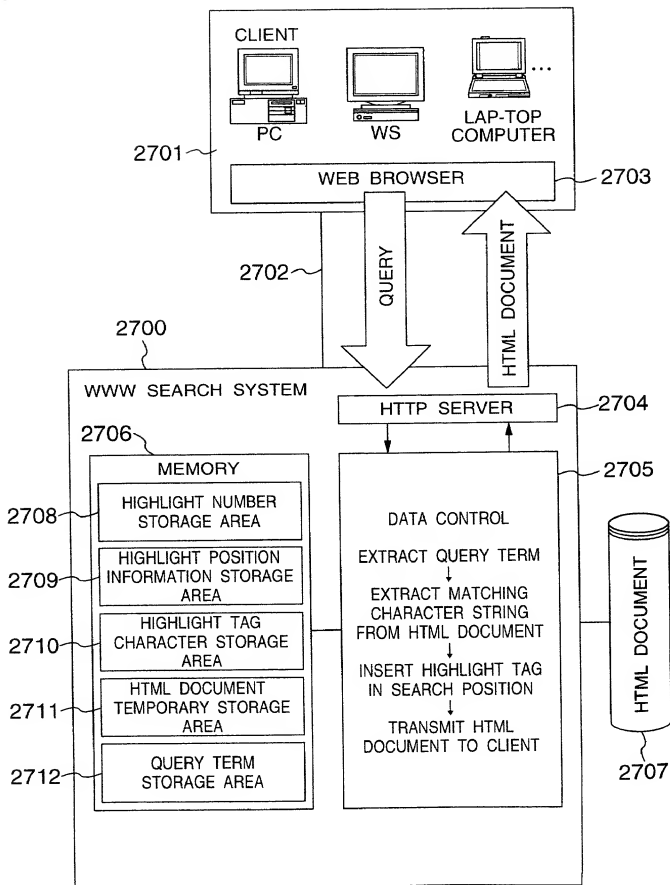


FIG. 28

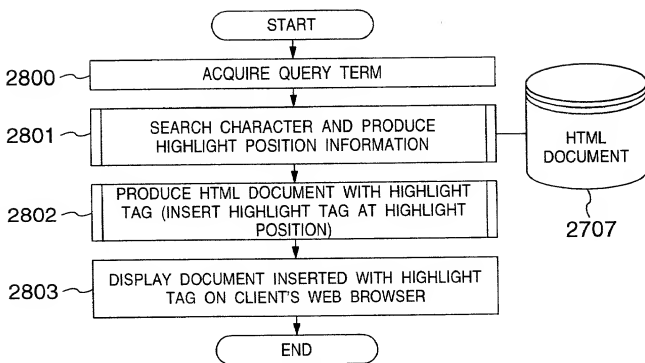


FIG. 29

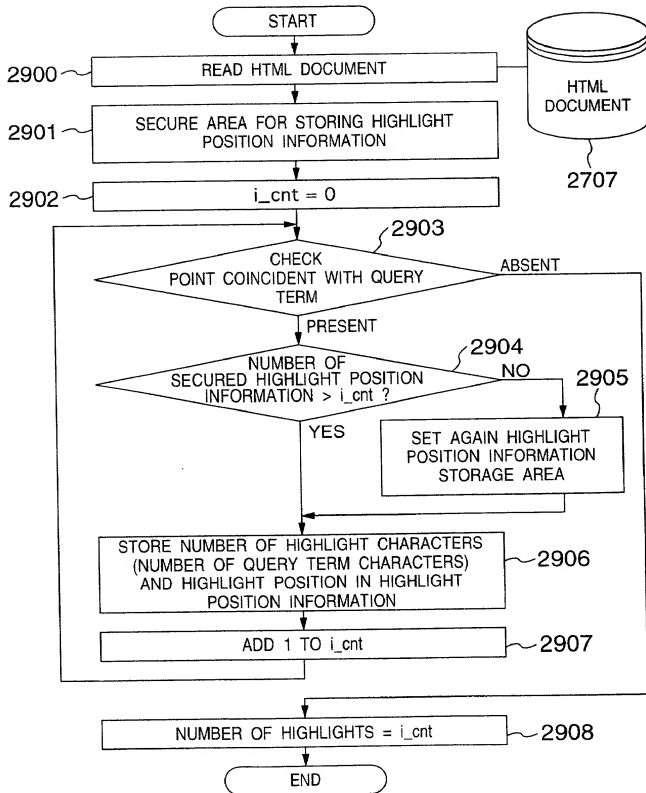


FIG. 30

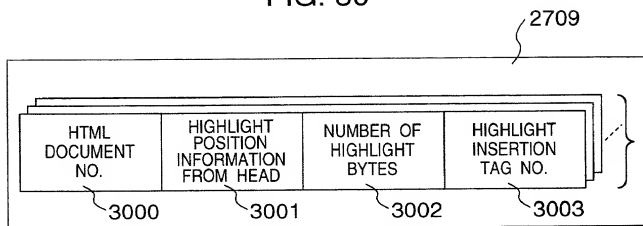


FIG. 31

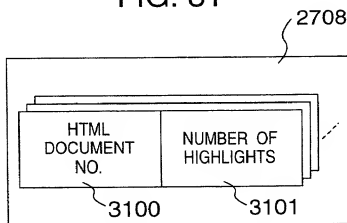
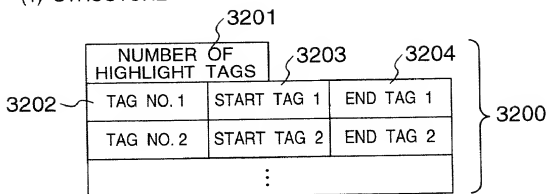


FIG. 32

(1) STRUCTURE



(2) APPLICATION

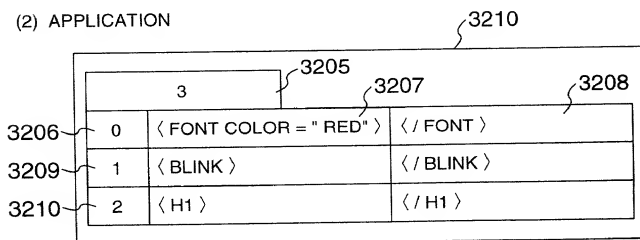


FIG. 33

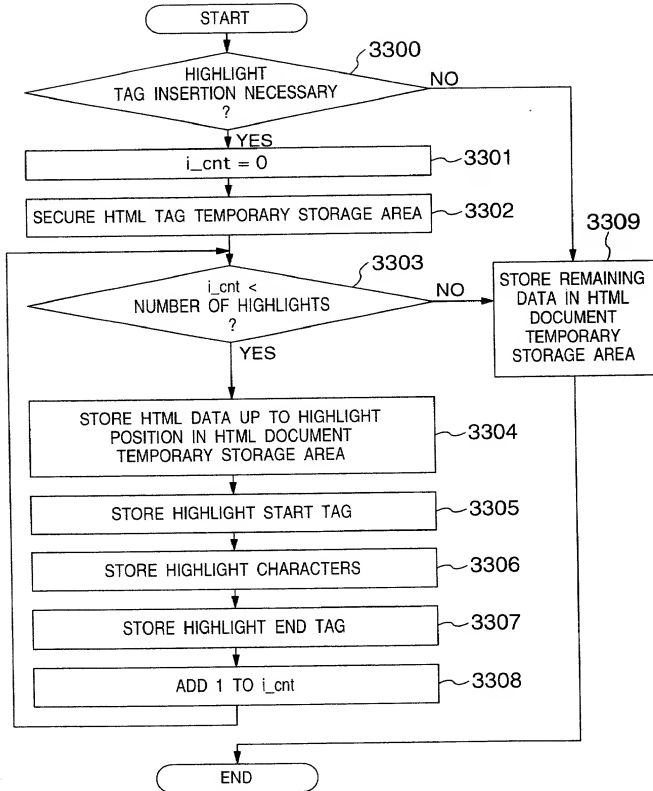
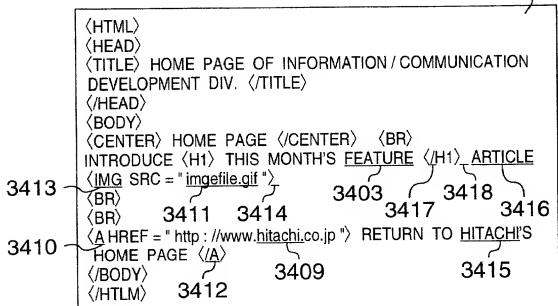


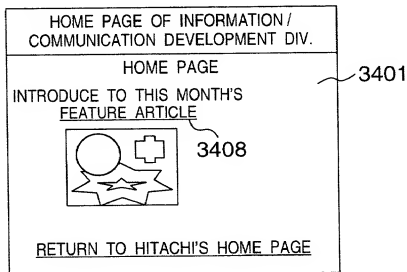
FIG. 34

(1) HTML DOCUMENT

3400



(2) DISPLAY SCREEN



(3) HIGHLIGHT POSITION INFORMATION STORAGE AREA

HTML DOCUMENT NO.	HIGHLIGHT POSITION INFORMATION FROM HEAD	NUMBER OF HIGHLIGHTS	HIGHLIGHT INSERTION TAG NO.	} 3402
001	122	4	1	

3404 3405 3406 3407

FIG. 35

(1) HTML DOCUMENT AFTER HIGHLIGHT TAG INSERTION

3500

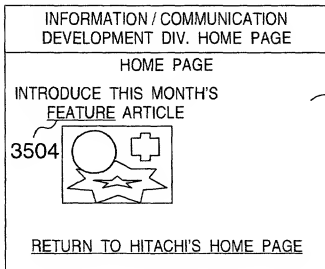
```

<HTML>
<HEAD>
<TITLE> INFORMATION / COMMUNICATION DEVELOPMENT DIV.
HOME PAGE </TITLE>
</HEAD>
<BODY>
<CENTER> HOME PAGE </CENTER> <BR>
INTRODUCE <H1> THIS MONTH'S <BINK> FEATURE </BINK>
</H1> ARTICLE
<IMG SRC = " imagefile.gif ">
<BR>
<BR>
<A HREF = " http : //www.hitachi.co.jp "> RETURN TO HITACHI'S HOME PAGE
</A>
</BODY>
</HTML>
  
```

3501

3502

(2) DISPLAY SCREEN AFTER HIGHLIGHT TAG INSERTION



3503

3504

FIG. 36

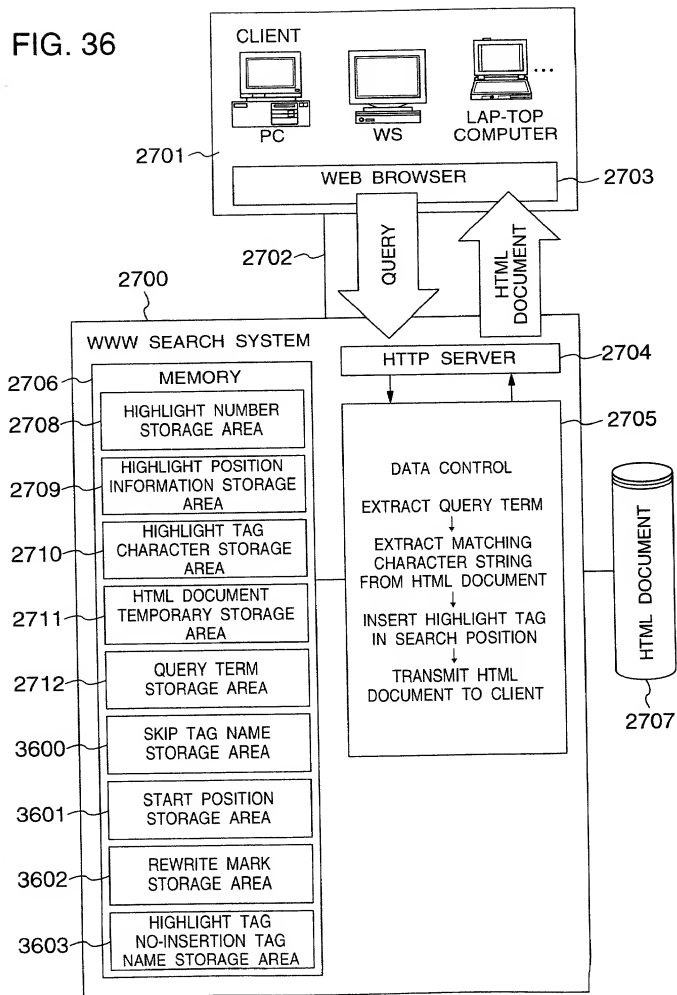


FIG. 37

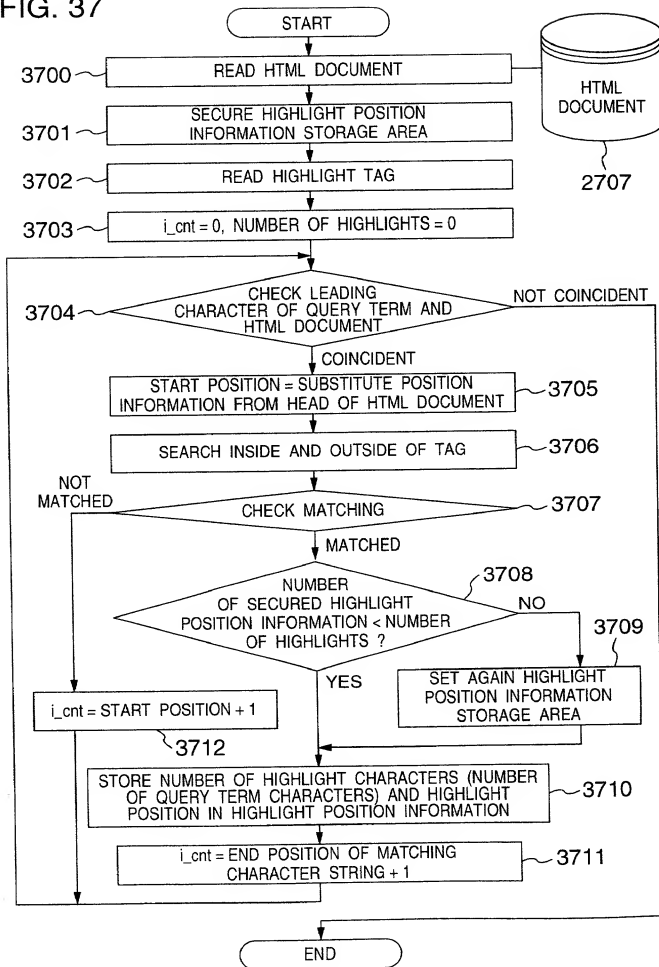


FIG. 39

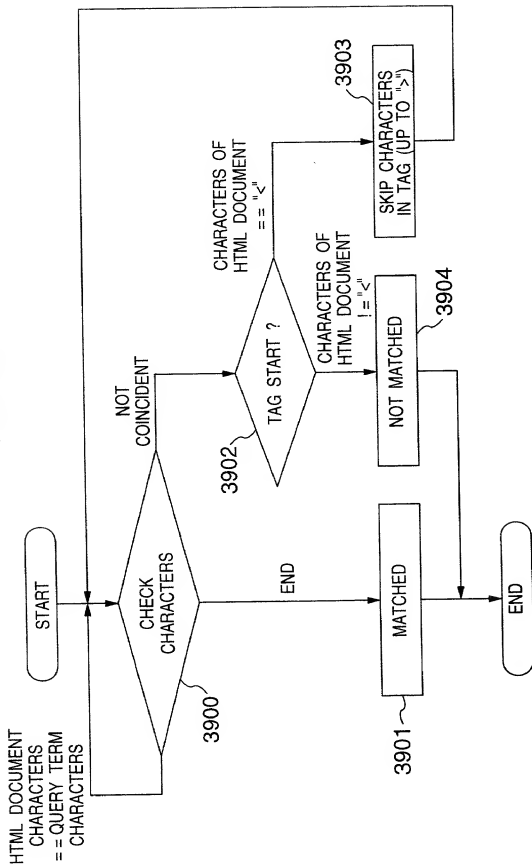


FIG. 40

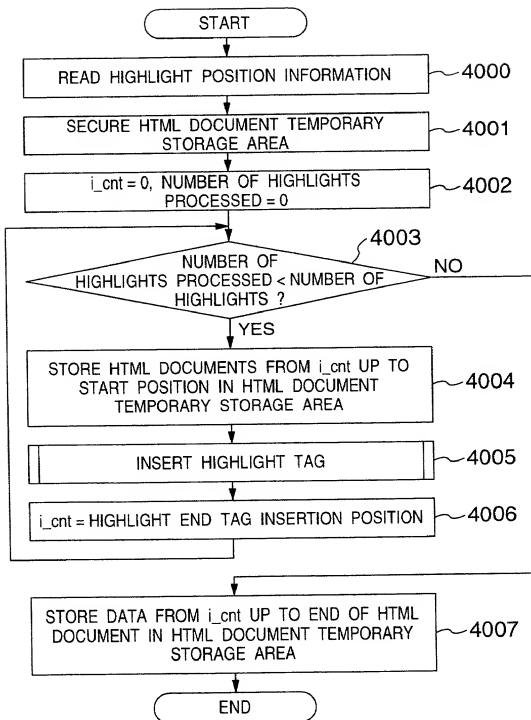
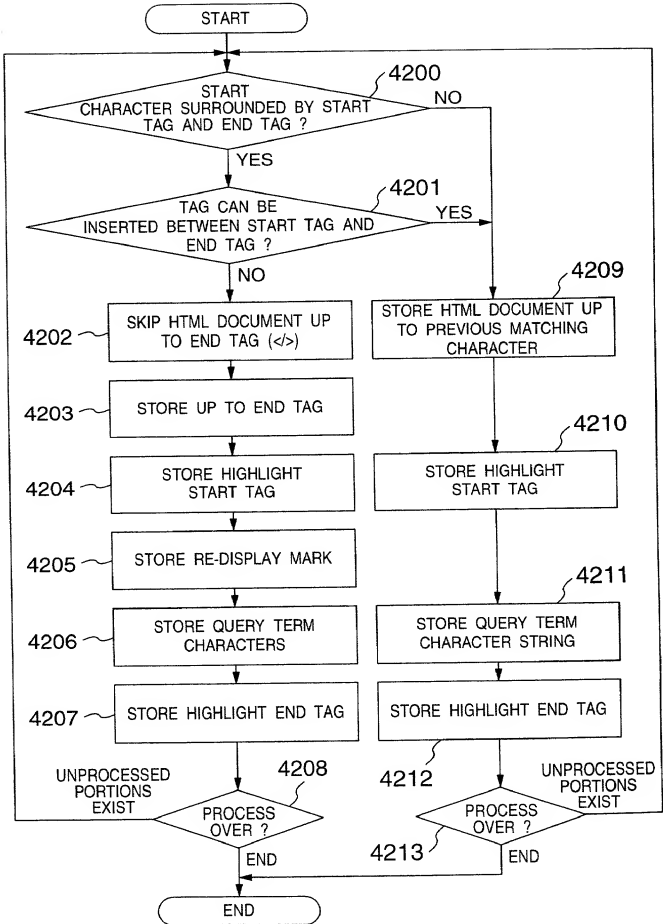


FIG. 42



109260-54749601

100220" 5474960

FIG. 43

<DOCUMENT. TITLE> : "STRUCTURED DOCUMENT" {BLUE} AND
<DOCUMENT. TEXT> {CORRUGATED UNDERLINE} : ("STRUCTURED DOCUMENT")
OR C<10 {REVERSE} ("TAG", "INSERT")

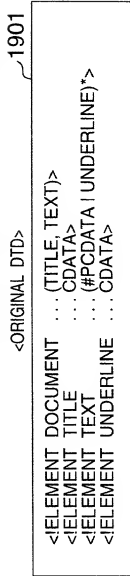
FIG. 44

<MATCHING STRINGS POSITION INFORMATION>

ELEMENT ID	HIGHLIGHTING METHOD	MATCHING CONDITION	MATCHING STRINGS POSITION	
			START POSITION	LENGTH
2	<u>BLUE</u>	TERM	0	10
9	—	FREQUENCY	0	10
9	<u>CORRUGATED UNDERLINE</u>	ELEMENT	0	50
9	—	TERM	30	4
9	—	TERM	36	4
9	<u>REVERSE</u>	PROXIMITY	30	10

FIG. 45

<CONVERSION TO DTD FOR HIGHLIGHTED DISPLAY IN SIXTH EMBODIMENT>



ADD HIGHLIGHT INFORMATION
FOR DISPLAY DOCUMENT

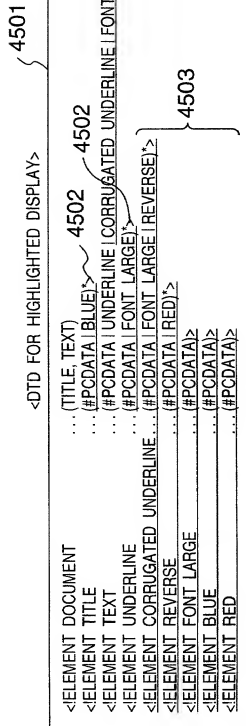


FIG. 46

```

<DOCUMENT>
<TITLE> <BLUE>STRUCTURED DOCUMENT</BLUE></TITLE>
<TEXT>
<UNDERLINE> <CORRUGATED UNDERLINE></FONT LARGE> STRUCTURED </FONT LARGE>
</CORRUGATED UNDERLINE></UNDERLINE><CORRUGATED UNDERLINE></FONT LARGE>
DOCUMENT </FONT LARGE> IS A DOCUMENT ... <CORRUGATED UNDERLINE> IN WHICH
<REVERSE> <RED> TAG </RED> IS <RED> INSERTED </RED> </REVERSE> IN TEXT
</TEXT>
</DOCUMENT>

```

FIG. 47

<EXAMPLE OF HIGHLIGHTED DISPLAY>

STRUCTURED DOCUMENT IS A DOCUMENT WITH **TAG INSERTED** IN TEXT